



IAO STREAM FLOOD CONTROL WAILUKU, ISLAND OF MAUI

Project Location. The Iao Stream drainage basin is approximately 10 square miles in area and is located on the island of Maui, the second largest island of the Hawaiian group. Iao Stream drains a portion of the slopes of the west Maui mountains, and its lower course runs into the sea just to the east of the town of Wailuku, the Maui County seat.

Authorization. The project was authorized by the Flood Control Act of 1968 (PL 90-483).

Local Sponsor. County of Maui.

Completed Work. The project includes a debris basin located about 2.5 miles upstream of the mouth of Iao Stream; channel improvement from the debris basin to about 1,100 feet downstream of Market Street Bridge; diversion levees and flood plain management from the channel improvements to the Waiehu Beach Road; and channel improvement for about 1,400 feet downstream of Waiehu Bridge. The standard project design discharge is 26,500 cfs at the stream mouth. The project was completed in 1981 at a cost of \$12,559,262 (federal: \$12,285,000; non-federal: \$274,262). The completed flood control project was dedicated and transferred to the County of Maui in October 1981 for operation and maintenance. The completed flood control project has prevented an estimated \$24.2M in damages to date.

Present Status. High stream flows caused undermining of floodplain levees, along a reach of 0.8 mile above Waiehu Beach Road in late 1981. The repairs were completed in November 1983. At the request of the Maui County Department of Public Works in August 1989, a field inspection was held to investigate damages to levees from 0.8 mile to 1.5 miles above Waiehu Beach Road. The streambed had eroded 6 to 8 feet and streamflows had undermined the toe of the existing riprap lining. These damages were attributed to storm events that occurred in 1989. In May 1993, the County requested additional investigations of an area upstream of the debris basin to determine if high flows could "jump" the existing stream bank and flood residential areas on the north side of the channel.

The Corps conducted a reconnaissance study to investigate solutions to these problems under the "Modification to Completed Projects" program. The final report was submitted to HQUSACE in March 1995 and approved in December 1995. The recommended modification consists of a 7,000-foot trapezoidal concrete channel connecting existing improvements between Waiehu Beach Road and Market Street. The channel alignment would closely follow that of the natural stream. The estimated cost of this improvement is \$13,700,000 (federal: \$10,275,000; County of Maui: \$3,425,000). Preparation of a Design Memorandum was initiated in January 1996.

Future Efforts. During the design phase, a design deficiency was discovered in the existing drop structure and the scope of the investigation was expanded to include correcting the drop structure deficiency as well as the levee deficiency. The Committee on Channel Stabilization developed an alternative plan that is currently under review by the study team. The conceptual design of this alternative is also underway. The Draft General Reevaluation Report and Environmental Assessment was initiated in May 2002. The issue is the selection of a plan that will be affordable to the County, meet technical requirements, and achieve acceptability by the sponsor and public interests.